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SCIENCE

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FRIDAY, MARCH 10, 1899.

EXPLOSIONS CAUSED BY COMMONLY OCCURRING SUBSTANCES.*

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ON the sixth of November last the country was startled by learning that an explosion had occurred in the Capitol at Washington which had caused extensive damage to that magnificent and historic building, and which, with the ensuing fire, had destroyed some and jeopardized more of the valuable archives with which the building was stored. Occurrences of this kind have long had a particular interest for me, and I have found them to recur with great frequency and to cause extensive damage and destruction not only to property but to person. Notwithstanding, therefore, that much that I have to say is well known, it appears to be not inopportune to address you on the subject of 'Explosions Caused by Commonly Occurring Substances,' omitting entirely from consideration the substances commonly known and used as explosives, and it is possible that this repetition may serve to some extent in preventing these accidents by leading to greater precautions being taken.

From the observations on the phenomena accompanying the combustion of solids it is well understood that the speed of the combustion is greatly accelerated by comminuting the combustible and mixing it in-

MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

* Address of the President before The American Chemical Society, New York Meeting, December, 1898.

David Eugene Smith, Ph.D., State Normal School, Brockport, N. Y.

IT is announced that the government has compiled a History of the Territory of Alaska, bringing the explorations made by army officers up to date and including an elaborate description of the physical resources of the Territory. The compilation when published will make a large octavo volume of about 500 printed pages. The material was supplied, by the War Department under the direction of Assistant Secretary Meiklejohn, to the Senate.

BOOKS RECEIVED.

- General Physiology.* MAX VERWORN. Translated from the second German edition and edited by FREDERIC S. LEE. New York and London, The Macmillan Company. 1899. Pp. xvi + 615. \$4.00.
- L'audition et ses organes.* M. E. GELLÉ. Paris, Alcan. 1899. Pp. 326.
- La Céramique ancienne et moderne.* E. GUIGNET and EDOUARD GARNIER. Paris, Alcan. 1899. Pp. 311.
- The Theory of the Leisure Class: an Economic Study in the Evolution of Institutions.* THORSTEIN VEBLEN. New York and London, The Macmillan Company. 1898. Pp. vii + 400. \$2.00.

SCIENTIFIC JOURNALS AND ARTICLES.

THE American Mathematical Society is actively pushing the plans for the publication of its Transactions, and it is probable that the first number will appear in January next. A committee, consisting of Messrs. T. S. Fiske, R. S. Woodward, E. H. Moore, Maxime Bôcher and James Pierpont has been appointed to secure the necessary financial guarantees. Subscriptions of one hundred dollars annually for a term of five years have already been pledged by representatives and friends of each of the following institutions: Chicago University, Columbia University, Yale University and Bryn Mawr College. Other pledges are anticipated and the plan is already assured of success.

The Journal of Geology, Vol. 7, No. 1, for January and February, contains the following papers:

Frank Leverett: 'The Lower Rapids of the Mississippi River,' pp. 1-20. The writer discusses the abandonment by the Mississippi River of its pre-glacial channel just above Keokuk, Ia., and the production of the newer and

more contracted channel, in which are the rapids. The Kewatin ice sheet and its drift are regarded as the principal cause.

H. B. Kümmel: 'The Newark Rocks of New Jersey and New York,' pp. 23-53. The writer divides the strata under consideration into the Stockton, Lockatong, Brunswick and Trap formations. Their distribution, character, folding and faulting, and the conditions prevailing during their formation, are then discussed.

Henry S. Washington: 'The Petrographical Province of Essex County, Mass.,' II., pp. 53-64. The paper continues one that was begun in the last number. It describes, with analyses, the essexites, diorites, quartz-augite-diorites, porphyritic diorites and gabbros.

J. A. Udden: 'The Sweetland Creek Beds,' pp. 65-79. The beds are chiefly shale, and lie between the Cedar Valley Limestone below and the Coal Measures above, in Muscatine county, Ia. Fossils indicate an Upper Devonian Age.

G. H. Squier: 'Studies in the Driftless Region of Wisconsin,' pp. 79-83. One glaciated boulder has been found in a valley within the driftless region.

W. N. Logan: 'A Discussion and Correlation of certain Subdivisions of the Colorado Formation,' pp. 83-92. The paper discusses and correlates the subdivisions of this formation in the Kansas, Colorado, Black Hills and Iowa-Nebraska areas.

Editorials and reviews complete the number.

THE leading article in the *American Naturalist* for February, is by Dr. W. H. Dall, and discusses 'The Proposed University of the United States and its possible Relations to Scientific Bureaus of the Government.' Dr. Arthur Hollick continues the consideration of 'The Relation between Forestry and Geology in New Jersey,' this paper giving 'The Historical Development of the Flora,' concluding that the gradual extinction of the gymnosperm type is indicated. Professors J. H. Comstock and J. G. Needham also continue the subject of 'The Wings of Insects,' the chapter being devoted to the specialization of wings by addition as illustrated by the venation of the wings of Ephemera. Under the title of 'The Penicillin: a Review' Dr. R. A. Daly considers at length Professor Tarr's objections to the exist-